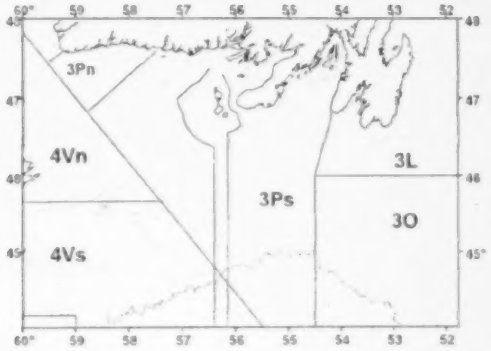
Subdivision 3Ps Pollock



Summary

- Pollock do not generally occur in Newfoundland waters in sufficient numbers to support a major fishery.
- Historically warm periods have coincided with higher abundance of pollock in the area.
- In 1999 survey biomass was estimated at 5700 metric tons. This estimate is largely the result of two large sets in two strata.

Background

Pollock occur on both sides of the North Atlantic, on the North American side from southern Labrador around Newfoundland into the Gulf of St. Lawrence, and south to Cape Hatteras. Pollock is a member of the cod family (Gadidae), but unlike most members spends little time near the bottom. They are voracious eaters and often congregate in large numbers.

As pelagic larvae they feed mainly on copepods, but as they settle and move inshore, crustacea, mainly amphipods, are the preferred food. As they increase in size, euphausiids, shrimp and small fish become part of the diet. In the offshore areas sand lance, herring, silver hake, redfish and lanternfish become more important in the diet.

Pollock are a cold water fish preferring waters from 0° C to 10° C however maturation of sex organs and incubation of eggs requires temperatures in the upper range. This fact places Newfoundland waters at the northern end of pollock range. Research on pollock in the Newfoundland area shows that mature fish occur along the slopes of St. Pierre Bank and the slopes of the southern Grand Bank. In summer months schools of young pollock are occasionally found in harbours along Newfoundland's south coast.

Pollock do not generally occur in Newfoundland waters in sufficient numbers to support a major commercial fishery.

The Fishery

Catches of pollock in Subdivision 3Ps are generally low, having been less than 1,000 metric tons annually from 1967-1982. Catches gradually increased however, peaking at 7,500 metric tons in 1986, but have since declined to pre-1980 levels.

Landings (thousand metric tons)

Year	67-76 Avg.	77-90 Avg.	1995[1]	1996[1]	1997[1]	1998[1]	1999[1]
TAC	-	-	1[2]	5.4	1500[2]	[2]	[2]
Can.	.1	2	3	.4	.6	.1	.4
Others	.2	.2	0	+	+	0	0
Totals	.3	2	3	.4	+	.4	.4

[1] Provisional
[2] By-catch Only

Canada

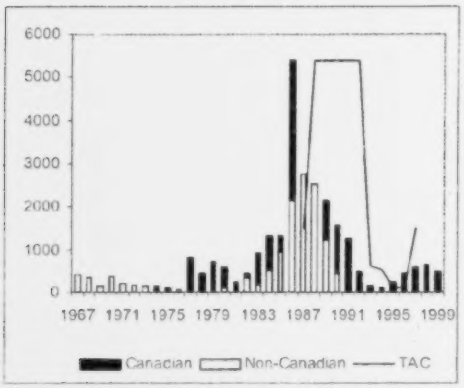


Figure 1- Landings and TAC's for pollock in NAFO Subdivision 3Ps 1967-1999.

Resource Status

Due to the pelagic nature of the species research vessel (bottom trawl) surveys may not give a reliable index of abundance or biomass. However Canada has conducted surveys in NAFO Subdivision 3Ps since 1972. The **biomass index** was low in the 1970s (<1,000 metric tons). It gradually increased to 7,900 metric tons in 1987 has since declined to pre-1980 level. In 1999 the

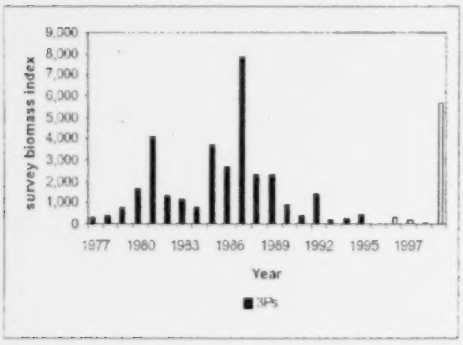


Figure 2 - Canadian Research vessel survey biomass index 1977-1995 by Engels 145 and 1996-1999 Campelen 1500 shrimp trawl.

biomass was estimated at 5,700 metric tons. This estimate is the result of two relatively large sets in two strata.

Surveys in the 1990's have caught very few Pollock.

Survey coverage was extended into Placentia Bay in 1994, into Fortune Bay and inshore west of Fortune Bay in 1997, however no significant concentrations of pollock have been observed in these areas.

In 1996 the survey gear was changed to the Campelen 1800 shrimp trawl. With the switch an increase in the catchability of small fish has been realized, however surveys since 1996 have not seen significant increases in small Pollock.

Since conversion factors from Engels to Campelen equivalence are not available for pollock, comparison of pre and post 1996, survey abundance and biomass estimates are inappropriate.

Ecological and Biological Factors

Pollock in Newfoundland waters are at the northern extent of their range in the Northwest Atlantic. Cold waters throughout the area in late 1980's and early 1990's have probably been restrictive to their distribution. Currently (1999) water temperatures in 3Ps have warmed to levels significantly above long-term means.

Historically, warm periods have coincided with higher abundance of pollock in the area. It is not known whether increases in abundance are due to immigration from adjacent stocks or increased recruitment from local spawning.

Outlook

Pollock have never been a major component of the commercial fishery in NAFO Subdivision 3Ps. Their contribution is based on the occurrence, and survival of year-classes against great odds in the extreme north of their range. If the warmer conditions observed in 1999 persist then

overall conditions for pollock are expected to improve in 3Ps. However, it is not possible to make predictions about future environmental conditions.

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References

Research Document: Murphy, E.F. 1995. The Status of 2GH cod, 3LNO haddock, 3Ps haddock and 3Ps pollock. DFO Atl. Res. Doc. 95/33.

This report is available from:

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